

=> d history

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(FILE 'USPAT' ENTERED AT 10:19:46 ON 04 FEB 1998)
L1      2483 S DENDRITIC
L2      5057 S HIV
L3      12115 S INFECTIOUS
L4      2 S FLT3L OR FLT3 LIGAND
L5      13 S FLK2
L6      36 S L1 (P) L2
L7      13 S L1 (P) L3
L8      8 S L1 (P) L2 (P) L3
L9      0 S L8 AND L4
L10     0 S L6 AND L4
L11     0 S L7 AND L4
L12     5 S L7 NOT L8
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(FILE 'USPAT' ENTERED AT 10:47:51 ON 04 FEB 1998)

L1	2 S FLT3L OR FLT3 LIGAND OR FLT3 RECEPTOR#
L2	2483 S DENDRITIC
L3	0 S L1 AND L2
L4	157 S CD34

2/3/7 (Item 7 from file: 654)  
DIALOG(R)File 654:US Pat.Full.  
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03037799

Utility

METHOD OF IDENTIFYING BIOLOGICAL RESPONSE MODIFIERS INVOLVED IN DENDRITIC  
AND/OR LYMPHOID PROGENITOR CELL PROLIFERATION AND/OR DIFFERENTIATION

PATENT NO.: 5,985,660

ISSUED: November 16, 1999 (19991116)

INVENTOR(s): Galy, Anne H. M., Palo Alto, CA (California), US (United  
States of America)

ASSIGNEE(s): SyStemix, Inc , (A U.S. Company or Corporation), Palo Alto, CA  
(California), US (United States of America)  
[Assignee Code(s): 26755]

APPL. NO.: 8-482,650

FILED: June 07, 1995 (19950607)

RELATED APPLICATIONS

This application is a continuation of U.S. application Ser. No.  
08-464,678 filed on Jun. 6, 1995, now abandoned which is the U.S. national  
phase of PCT Application Ser. No. PCT-US95-03038 filed on Mar. 9, 1995,  
which is a continuation-in-part of U.S. application Ser. No. 08-260,185

2/3/18 (Item 18 from file: 654)  
DIALOG(R)File 654:US Pat.Full.  
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02835667

Utility  
ANTIBODIES TO CD40

PATENT NO.: 5,801,227  
ISSUED: September 01, 1998 (19980901)  
INVENTOR(s): Fanslow, III, William C., 218 SW. 327th Pl., Federal Way, WA  
(Washington), US (United States of America), 98023  
Zappone, JoDee, 4426--176th St. SW., #J-2, Lynnwood, WA  
(Washington), US (United States of America), 98037  
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(Washington), US (United States of America), 98110  
Armitage, Richard J., 5133 Eagle Harbor Dr., Bainbridge Island  
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[Assignee Code(s): 68000]  
APPL. NO.: 8-526,014  
FILED: September 08, 1995 (19950908)

This is a continuation of U.S. application Ser. No. 08-130,541, filed  
Oct. 1, 1993, now abandoned.

2/3/22 (Item 22 from file: 654)  
DIALOG(R)File 654:US Pat.Full.  
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02552628

Utility  
SOLUBLE AND ITS USE IN B CELL STIMULATION  
[Gp39 protein]

PATENT NO.: 5,540,926  
ISSUED: July 30, 1996 (19960730)  
INVENTOR(s): Aruffo, Alejandro, Edmonds, WA (Washington), US (United States  
of America)  
Hollenbaugh, Diane, Seattle, WA (Washington), US (United  
States of America)  
Ledbetter, Jeffrey A., Seattle, WA (Washington), US (United  
States of America)  
ASSIGNEE(s): Bristol-Myers Squibb Company, (A U.S. Company or Corporation),  
Seattle, WA (Washington), US (United States of America)  
[Assignee Code(s): 22921]  
APPL. NO.: 7-940,605  
FILED: September 04, 1992 (19920904)

2/K/7 (Item 7 from file: 654)  
DIALOG(R)File 654:(c) format only 2000 The Dialog Corp. All rts. reserv.

#### OTHER REFERENCES

...cells in vitro" J. Immunol. (1991) 147:4060-4068.

Caux et al., "Activation of human **dendritic** cells through **CD40** cross-linking" J. Exp. Med. (1994) 180:1263-1272.

Steinman, "The **dendritic** cell system ... and its role in immunogenicity" Ann. Rev. Immunol. (1991) 9:271-296.

Macatonia et al., "**Dendritic** cells and macrophages are required for Th1 development of CD4+ T cells from alpha beta...

2/K/8 (Item 8 from file: 654)  
DIALOG(R)File 654:(c) format only 2000 The Dialog Corp. All rts. reserv.

... a number of tissue sources, and conveniently, from peripheral blood, as described herein.

The term "**dendritic** cell binding protein" refers to any protein for which receptors are expressed on a **dendritic** cell. Examples include GM-CSF, IL-1, TNF, IL-4, **CD40L**, CTLA4, CD28, and FLT-3 ligand.

#### II. Immunostimulatory Polypeptide Complexes

##### A. Selection of Components of...

all

6/7/1 (Item 1 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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10166594 BIOSIS NO.: 199698621512

In vivo administration of **FLT3 ligand** but not G-CSF nor GM-CSF  
results in the generation of large numbers of **dendritic** cells in  
mice.

AUTHOR: Maraskovsky E; McKenna H J; Brasel K; Tepee M; Roux E; Lyman S D;  
Williams D E

AUTHOR ADDRESS: Immunex Corp., Seattle, WA\*\*USA

JOURNAL: Blood 86 (10 SUPPL. 1):p423A 1995

CONFERENCE/MEETING: 37th Annual Meeting of the American Society of  
Hematology Seattle, Washington, USA December 1-5, 1995

ISSN: 0006-4971

RECORD TYPE: Citation

S9            2   RD S8 (unique items)  
? t s9/7/all

9/7/1            (Item 1 from file: 73)  
DIALOG(R)File 73:EMBASE  
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05383136            EMBASE No: 1993151235

The molecular basis for T cell help in humoral immunity: CD40 and its ligand, gp39

Marshall L.S.; Aruffo A.; Ledbetter J.A.; Noelle R.J.  
Department of Microbiology, Dartmouth Medical School, One Medical Center Drive, Lebanon, NH 03756 United States  
Journal of Clinical Immunology ( J. CLIN. IMMUNOL. ) (United States)  
1993, 13/3 (165-174)  
CODEN: JCIMD    ISSN: 0271-9142  
DOCUMENT TYPE: Journal; Review  
LANGUAGE: ENGLISH    SUMMARY LANGUAGE: ENGLISH

The identification of gp39-CD40 as an essential ligand-receptor pair for TD humoral immunity offers new insights into the regulation of TD immune responses. It is apparent that alterations in the regulation of gp30 expression, either by mutations in the gp39 gene (HIM patients) or by other factors that influence expression (like cyclosporine), have an overwhelming effect on humoral immunity. Whether other arms of the immune response are targets of gp39 action is unknown at this time. However, the identification of CD40 as the receptor for gp39 provides clues as to other CD40-expressing cell types (follicular dendritic cells, thymic epithelial cells, etc.) that might be regulated by activated CD4sup + T cells. The immunosuppressive effects of anti-gp39 on primary and secondary humoral immunity, as well as the beneficial therapeutic effects of anti-gp39 on the progression of autoimmune disease in animal models suggest that this ligand-receptor pair is an ideal target for therapeutic intervention.

9/7/2            (Item 1 from file: 155)  
DIALOG(R)File 155:MEDLINE(R)  
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07629797    93392716

Tolerizing mice to human leukocytes: a step toward the production of monoclonal antibodies specific for human dendritic cells.

O'Doherty U; Swiggard WJ; Inaba K; Yamaguchi Y; Kopeloff I; Bhardwaj N; Steinman RM

Laboratory of Cellular Physiology and Immunology, Rockefeller University, New York, NY 10021.

Adv Exp Med Biol (UNITED STATES) 1993, 329 p165-72, ISSN 0065-2598    Journal Code: 2LU

Languages: ENGLISH

Document type: JOURNAL ARTICLE

Despite several attempts to isolate a mAb specific for human dendritic cells, none currently exists. Recent attempts have utilized an improved dendritic cell purification method to prepare immunogens and a rapid two-color flow cytometric screening procedure that allows large numbers of hybridoma supernatants to be examined in each fusion. Yet these improvements have also failed, yielding only hybridomas that bind "shared" antigens expressed by both dendritic cells and other leukocytes.

Dendritic cells express many shared antigens, including CD45



[leukocyte common antigen], **CD40**, leukocyte [beta 2] integrins CD11a and CD11c, CD54 [ICAM-1], CD44 [Pgp-1], CD58 [LFA-3], and the B7/BB1 antigen. Therefore, we are attempting to bias the immune response toward rarer, dendritic cell-specific clones by tolerizing or immunosuppressing our animals to shared antigens. In one approach, adult mice held in barrier cages are injected with "nondendritic" cells and cyclophosphamide [CP], in order to ablate responding "nonspecific" B cell clones. Fifteen days after the last dose of CP, they are challenged with nondendritic cells. A week later they are bled, and serum antibody titers against nondendritic cells are determined by FACS, in order to demonstrate tolerance compared to controls injected with CP alone. In the second approach, neonatal mice are injected with human T lymphoblasts at birth, followed by boosting at 1 week. In adulthood, they are challenged sequentially with sheep erythrocytes [sRBC], then with T blasts, to demonstrate that they can respond to unrelated cells but not to tolerogenic cells. One week after each kind of challenge, mice are bled and serum antibody levels are determined for treated and sham-injected mice. When these two approaches were compared, CP led only to nonspecific immunosuppression, while neonatal injections produced selective, antigen-specific nonresponsiveness to the tolerizing T blasts.

? s s7 and py=1994

653 S7  
1925533 PY=1994  
S10 27 S7 AND PY=1994  
? rd s10

...completed examining records  
S11 13 RD S10 (unique items)  
? t s11/7/all

11/7/1 (Item 1 from file: 5)  
DIALOG(R)File 5:BIOSIS Previews(R)  
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09550992 BIOSIS NO.: 199598005910  
Activation of human **dendritic** cells through **CD40** cross-linking.  
AUTHOR: Caux Christophe(a); Massacrier Catherine; Vanbervliet Beatrice;  
Dubois Bertrand; Van Kooten Cees; Durand Isabelle; Banchereau Jacques  
AUTHOR ADDRESS: (a)Schering-Plough, 27 Chemin de Peupliers, BP 11-69571,  
Dardilly Cedex\*\*France  
JOURNAL: Journal of Experimental Medicine 180 (4):p1263-1272 1994  
ISSN: 0022-1007  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: **Dendritic** cells, the professional antigen-presenting cells (APC) involved in T cell priming, express **CD40**, a molecule which triggering plays a key role in B cell growth and differentiation as well as monocyte activation. Herein we demonstrate that **dendritic** Langerhans cells (D-Lc)' generated by culturing cord blood CD34+ progenitor cells with granulocyte/macrophage colony-stimulating and tumor necrosis factor alpha (TNF-alpha) express functional **CD40** at a density higher than that found on B cells. Culturing D-Lc on CD40-ligand (CD40L) transfected L cells allowed D-Lc survival as 50 +/- 15% of seeded cells were recovered after 4 d while only 5% survived over control L cells. CD40 activation induced important morphological changes with 2 reduction of cytoplasmic content and a remarkable increase of dendrite development as well as an altered phenotype. In particular, CD40 triggering induced maintenance of high levels of major histocompatibility complex class II antigens and upregulation of accessory molecules such as CD58, CD80 (B7-1) and CD86 (B7-2). **CD40** engagement also seems to turn on D-Lc maturation 2S illustrated by upregulation of CD25, a molecule usually expressed on interdigitating **dendritic** cells of

secondary lymphoid organs. Finally, **CD40** activated D-Lc secreted a limited set of cytokines (TNF-alpha, IL-8, and macrophage inflammatory protein 1 (MIP-1-alpha)) whereas a similar activation induced elutriated monocytes to secrete IL-1-alpha, IL-1-beta, IL-6, IL-8, IL-10, TNF-alpha, and MIP-1-alpha. As D-Lc activated T cells upregulated **CD40L**, it is likely that **CD40** activation of D-Lc observed herein with a fibroblast cell line stably expressing **CD40L**, mimics physiological interactions between **dendritic** cells and T cells.

11/7/2 (Item 2 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
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09538957 BIOSIS NO.: 199497547327  
Expression and function of CD40 on Hodgkin and Reed-Sternberg cells and the possible relevance for Hodgkin's disease.  
AUTHOR: Gruss Hans-Jurgen(a); Hirschstein Daniel; Wright Barbara; Ulrich Dawn; Caligiuri Michael A; Barcos Maurice; Strockbine Laura; Armitage Richard J; Dower Steven K  
AUTHOR ADDRESS: (a) Immunex Res. Dev. Corp., Dep. Biochem., 51 University St., Seattle, WA 98101\*\*USA  
JOURNAL: Blood 84 (7):p2305-2314 1994  
ISSN: 0006-4971  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: **CD40** was originally described as a B-cell-restricted antigen and was subsequently found to be a member of the tumor necrosis factor (TNF) receptor superfamily. **CD40** is also expressed on **dendritic** cells, thymic epithelium, monocytes, and some carcinoma cell lines, and plays a critical role in cell contact-dependent activation. Primary and cultured Hodgkin and Reed-Sternberg (H-RS) cells, the presumed malignant cells of Hodgkin's disease (HD), were found to express high levels of cell surface CD40. We found that recombinant CD40 ligand (CD40L) induced interleukin-8 (IL-8) secretion and enhanced IL-6, TNF, and lymphotoxin-alpha (LT-alpha/TNF-beta) release from cultured H-RS cells. These cytokines play a significant role in the clinical presentation and pathology of HD, a tumor of cytokine-producing cells. CD40L had no mitogenic activity for HD-derived cell lines. In contrast, CD40L enhanced expression of costimulatory molecules intracellular adhesion molecule-1 and B7-1 on cultured H-RS cells, both of which are overexpressed on primary H-RS cells. In addition, CD40L induced a 40% to 60% reduction of the expression of the HD-associated CD30 antigen, another member of the TNF receptor superfamily. Primary and cultured H-RS cells express not only CD30, but also CD40. CD40L has pleiotropic biologic activities on H-RS cells, and the CD40-CD40L interaction might be a critical element in the deregulated cytokine network and cell contact-dependent activation cascade typical for HD.

11/7/3 (Item 3 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
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09488475 BIOSIS NO.: 199497496845  
Functional **CD40** and B lymphocytes and **dendritic** cells.  
AUTHOR: Caux C; Burdin N; Galibert L; Hermann P; Renard N; Servet-Delprat C; Banchemereau J  
AUTHOR ADDRESS: Schering Plough, Lab. Immunol. Res., 27, Chemin des Peupliers, BP 11, 69571 Dardilly\*\*France  
JOURNAL: Research in Immunology 145 (3):p235-239 1994  
ISSN: 0923-2494  
DOCUMENT TYPE: Article  
RECORD TYPE: Citation

LANGUAGE: English

11/7/4 (Item 4 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
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09230788 BIOSIS NO.: 199497239158

Efficient presentation of soluble antigen by cultured human dendritic cells is maintained by granulocyte/macrophage colony-stimulating factor plus interleukin 4 and downregulated by tumor necrosis factor alpha.

AUTHOR: Sallusto Federica; Lanzavecchia Antonio(a)

AUTHOR ADDRESS: (a)Basel Inst. Immunol., Grenzacherstr. 487, CH-4005 Basel  
\*\*Switzerland

JOURNAL: Journal of Experimental Medicine 179 (4):p1109-1118 1994

ISSN: 0022-1007

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Using granulocyte/macrophage colony-stimulating factor (GM-CSF) and interleukin 4 we have established dendritic cell (DC) lines from blood mononuclear cells that maintain the antigen capturing and processing capacity characteristic of immature dendritic cells in vivo. These cells have typical dendritic morphology, express high levels of major histocompatibility complex (MHC) class I and class II molecules, CD1, Fc-gamma-RII, CD40, B7, CD44, and ICAM-1, and lack CD14. Cultured DCs are highly stimulatory in mixed leukocyte reaction (MLR) and are also capable of triggering cord blood naive T cells. Most strikingly, these DCs are as efficient as antigen-specific B cells in presenting tetanus toxoid (TT) to specific T cell clones. Their efficiency of antigen presentation can be further enhanced by specific antibodies via FcR-mediated antigen uptake. Incubation of these cultured DCs with tumor necrosis factor alpha (TNF-alpha) or soluble CD40 ligand (CD40L) for 24 h results in an increased surface expression of MHC class I and class II molecules, B7, and ICAM-1 and in the appearance of the CD44 exon 9 splice variant (CD44-v9); by contrast, Fc-gamma-RII is markedly and sometimes completely downregulated. The functional consequences of the short contact with TNF-alpha are an increased T cell stimulatory capacity in MLR, but a 10-fold decrease in presentation of soluble TT and a 100-fold decrease in presentation of TT-immunoglobulin G complexes.

11/7/5 (Item 5 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
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09215955 BIOSIS NO.: 199497224325

Rheumatoid synovium is enriched in mature antigen-presenting dendritic cells.

AUTHOR: Thomas Ranjeny; Davis Laurie S; Lipsky Peter E(a)

AUTHOR ADDRESS: (a)Dep. Internal Med., Div. Rheumatology, U.T. Southwestern Med. Center, 5323 Harry Hines Blvd., Da\*\*USA

JOURNAL: Journal of Immunology 152 (5):p2613-2623 1994

ISSN: 0022-1767

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Monocytes and dendritic cells (DC) can be purified from fresh peripheral blood (PB) based on their expression of CD33, CD13, and CD14. Whereas DC can be identified as CD33+CD14-dim or CD13+CD14-dim cells, monocytes can be identified as CD33+CD14-bright or CD13+CD14-bright cells. Rheumatoid synovial fluid (SF) and synovial tissue (ST) non-T cells were found to be enriched in CD33+CD14-dim cells compared with PB.

Whereas 4 to 14% of normal or rheumatoid PB non-T cells were CD33+ and CD14-dim, in rheumatoid SF or ST these cells comprised 20 to 45% of non-T mononuclear cells. Synovial CD33 +CD14-dim cells assumed a typical **dendritic** morphology on in vitro culture. Freshly isolated CD33+CD14-dim PB DC precursors express low levels of HLA-DQ, **CD40**, and B7, which increase after in vitro incubation. In contrast, freshly isolated SF DC constitutively expressed these markers, and increased densities of HLA-DR and MHC class I molecules. Rheumatoid SF DC showed a specifically enhanced ability to stimulate autologous PB T cells compared with PB DC, or PB or SF monocytes. PB DC or monocytes preincubated in granulocyte-macrophage-CSF, TNF-alpha, or both cytokines exhibited enhanced expression of HLA-DR. Furthermore, DC preincubated in both granulocyte-macrophage-CSF and TNF-alpha were better stimulators of the autologous MLR than DC preincubated in medium, or in either cytokine alone. The data indicate that DC are enriched in rheumatoid SF and ST, and display a more differentiated phenotype than PB DC. These results suggest that PB DC accumulate in the synovium where they undergo phenotypic and functional differentiation in situ, which may be mediated by local cytokines. DC may play an important role in the ongoing presentation of antigen to autoreactive T cells in RA synovium.

11/7/6 (Item 1 from file: 73)  
 DIALOG(R)File 73:EMBASE  
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05927290 EMBASE No: 1994331629  
 Regulation of the human IgE production  
 REGULATION DE LA PRODUCTION DES IGE CHEZ L'HOMME  
 Dessaint J.-P.; Labalette M.  
 Service d'Immunologie, Centre Hospitalier, Faculte de Medecine, Place de Verdun, 59045 Lille Cedex France  
 Allergie et Immunologie ( ALLERG. IMMUNOL. ) (France) 1994, 26/7  
 (238-247)  
 CODEN: ALGIB ISSN: 0397-9148  
 DOCUMENT TYPE: Journal; Review  
 LANGUAGE: FRENCH SUMMARY LANGUAGE: FRENCH; ENGLISH

Allergy is associated with elevated production of allergen-specific IgE antibody. Naive allergen-specific B cells undergo a series of molecular interactions before they would produce allergen-specific IgE antibody. Besides allergen recognition, specific B cells have to receive signals from cell-surface proteins and cytokines from their various cellular partners. Activated T cells express a ligand for **CD40** that rescues germinal centre B cells from programmed cell death. Contact with follicular **dendritic** cells or other T and B cells promotes differentiation into plasma blasts through engagement of two pairs of complementary cell-surface proteins, CD21/CD23. Among the many cytokines secreted by helper T cells, interleukin-4 is necessary for the class switch to IgE, and IL-13 also triggers switching to IgE. Then, IgE would participate to feed-back regulation of its production by acting at different levels. When bound to CD23, also known as Fcepsilon Receptor type II, IgE immune complexes inhibit CD21/CD23 cell-cell interactions. When bound to Fcepsilon Receptor type I on Langerhans' cells in the skin or mucosa, IgE antibody enhances allergen presentation to T cells and promotes their differentiation into type 2 helper T cells that secrete IL-4 but no interferon-gamma. Local activation of mast cells or basophils, via their Fcepsilon Receptor type I-bound IgE, would trigger secretion of various cytokines, IL-4 in particular, and expression of CD21 and CD40 ligand, which altogether could replace contact with T cells to deliver the co-stimulatory signals for localised IgE production. By inducing the production of interferon-gamma, allergen immunotherapy could modify the cytokine profile of allergen-specific T cells and ultimately reduce IgE production.

11/7/7 (Item 2 from file: 73)

05733500 EMBASE No: 1994131037

The CD40 antigen and its ligand  
Banchereau J.; Bazon F.; Blanchard D.; Briere F.; Galizzi J.P.; Van  
Kooten C.; Liu Y.J.; Rousset F.; Saeland S.  
Schering-Plough, Lab. for Immunological Research, Dardilly France  
Annual Review of Immunology ( ANNU. REV. IMMUNOL. ) (United States) 1994  
, 12/- (881-922)  
CODEN: ARIMD ISSN: 0732-0582  
DOCUMENT TYPE: Journal; Review  
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

**CD40** is an integral membrane protein found on the surface of B lymphocytes, **dendritic** cells, follicular **dendritic** cells, hematopoietic progenitor cells, epithelial cells, and carcinomas. It is a 45-50 kDa glycoprotein of 277 aa, which is a member of the tumor necrosis factor receptor superfamily. The **CD40** gene maps to human chromosome 20q11-2-q13-2. CD40 binds to a ligand (CD40-L) which is an ~35 kDa glycoprotein of 261 aa, a member of the tumor necrosis factor superfamily. The CD40-L gene maps to human chromosome Xq24. This CD40-L is expressed on activated T cells, mostly CD4sup + but also some CD8sup + as well as basophils/mast cells. The CD40-L is defective in the X-linked hyper-IgM syndrome. Cross-linking of CD40 with immobilized anti-CD40 or cells expressing CD40-L induces B cells to proliferate strongly, and addition of IL-4 or IL-13 allows the generation of factor-dependent long-term normal human B cell lines and the secretion of IgE following isotype switching. Addition of IL-10 results in very high immunoglobulin production with limited cell proliferation. IL-10 induces naive B cells to produce IgG3, IgG1, and IgA1, and further addition of TGFbeta permits the secretion of IgA2. Several evidences suggest that CD40-dependent activation of B cells is important for the generation of memory B cells within the germinal centers: (i) CD40 activated germinal center B cells cultured in the presence of IL-4 acquire a memory B cell phenotype, (ii) CD40 activated B cells can undergo isotype switching, (iii) the deficit of CD40-L results in the hyper-IgM syndrome characterized by lack of germinal centers in secondary lymphoid organ follicles and lack of IgG, IgA, and IgE, and (iv) **CD40-L** positive T cells are present in secondary follicles. Thymic epithelial cells, activated monocytes, and **dendritic** cells express **CD40** antigen which may be involved in an enhanced cytokine production by these cells, allowing an amplification of T cell proliferation. Finally, as other members of the tumor necrosis factor receptor family have been shown to bind several ligands, it is possible that CD40 may bind other ligands that may trigger CD40 on different cell types such as hematopoietic cells or epithelial cells.

11/7/8 (Item 1 from file: 155)  
DIALOG(R)File 155:MEDLINE(R)  
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08229444 95162028

Follicular dendritic cells in non-Hodgkin's lymphomas.  
Petrascu S; Brittinger G; Wacker HH; Schmitz J; Kosco-Vilbois M  
Division of Internal Medicine, Ruhr-University of Bochum, Germany.  
Leuk Lymphoma (SWITZERLAND) Sep 1994, 15 (1-2) p33-43, ISSN  
1042-8194 Journal Code: BNQ  
Languages: ENGLISH  
Document type: JOURNAL ARTICLE; REVIEW; REVIEW, ACADEMIC  
Follicular dendritic cells (FDC) are restricted to the B-cell regions of secondary lymphoid tissue and to non-Hodgkin's lymphomas derived from the follicular center or the mantle zone. With their cytoplasmic ramifications they form a dense network which contains the B-lymphocytes. In situ, FDC are only detectable at the ultrastructural level or when stained with anti FDC-reagents. On the surface of their **dendritic** extensions they

express transferrin receptors (CD71), the B-cell epitope CD20, class II antigens, the myelomonocytic molecule CD14, the glycoprotein gp50 (CD40), and several receptors for components of the complement system (CD11b, CD21, CD35). Subsequent to an antigen challenge, FDC trap and retain immune-complexes for a long period of time. In vitro FDC and neoplastic lymphocytes spontaneously form small cellular aggregates. This adhesion is mediated by the LFA-1-alpha/beta = ICAM-1, the VLA-4 = VCAM-1, and the ICAM-1 = C3bi- receptor ligand pathways on B-cells and on FDC, respectively. The loss of LFA-1- alpha/beta and ICAM-1 molecules may enable neoplastic lymphocytes to detach from FDC. The monoclonal B-cells now invade new compartments. In vitro, FDC have the capacity to activate resting B-cells and to save them from dying by apoptosis. Signals involved in this activation include cell-surface immunoglobulin and CD40. Immunocytochemistry and autoradiography with single cell suspensions of neoplastic B cells suggest that FDC also provide signals leading to the continued stimulation of lymphoma lymphocytes. During the early stage of HIV infection lymph nodes show an immense follicular hyperplasia, with a massive increase of the dendritic network of FDC. In the later stage of the disease, the continuous involution of the germinal centers is associated with a progressive destruction of FDC. (91 Refs.)

11/7/9 (Item 2 from file: 155)  
DIALOG(R)File 155:MEDLINE(R)  
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08177840 95196106

The role of **CD40** and CD80 accessory cell molecules in **dendritic** cell-dependent HIV-1 infection.

Pinchuk LM; Polacino PS; Agy MB; Klaus SJ; Clark EA

Department of Microbiology, University of Washington Medical Center, Seattle 98195.

Immunity (UNITED STATES) Jul 1994, 1 (4) p317-25, ISSN 1074-7613 Journal Code: CCF

Contract/Grant No.: RR00166, RR, NCRR; GM 37905, GM, NIGMS

Languages: ENGLISH

Document type: JOURNAL ARTICLE

We investigated the role of blood dendritic cells (DCs) in transmission of HIV-1 from infected to uninfected CD4+ T cells, and the accessory molecules involved. DCs promoted transmission from infected to uninfected CD4+ cells, but DCs themselves were not infectable. DC-mediated transmission was blocked by MAb to CD4 and MHC class II, but strongly increased by MAb to CD40 on DCs or CD28 on T cells. The DC-dependent infection was inhibitable by anti-CD80 and a soluble fusion protein of the CD80 ligand, CTLA4; soluble CTLA4 immunoglobulin also blocked infection augmented by cross-linking CD40. These data suggest a linkage between CD40-CD40L and CD28-CD80 counterreceptors on DCs and T cells, and spread of HIV infection in vivo.

11/7/10 (Item 3 from file: 155)  
DIALOG(R)File 155:MEDLINE(R)  
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08174274 95084041

Functional **CD40** on B lymphocytes and **dendritic** cells.

Caux C; Burdin N; Galibert L; Hermann P; Renard N; Servet-Delprat C; Banchereau J

Schering-Plough, Laboratory for Immunological Research, Dardilly, France.

Res Immunol (FRANCE) Mar-Apr 1994, 145 (3) p235-9; discussion 244-9, ISSN 0923-2494 Journal Code: R6E

Languages: ENGLISH

Document type: JOURNAL ARTICLE; REVIEW; REVIEW, TUTORIAL

(21 Refs.)

11/7/11 (Item 4 from file: 155)  
DIALOG(R)File 155:MEDLINE(R)  
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08173993 95077666

[Regulation of the production of IgE in man]  
Regulation de la production des IgE chez l'homme.  
Dessaint JP; Labalette M  
Service d'Immunologie, Centre Hospitalier, Faculte de Medecine, Lille.  
Allerg Immunol (Paris) (FRANCE) Sep 1994, 26 (7) p238-47, ISSN  
0397-9148 Journal Code: AEI  
Languages: FRENCH Summary Languages: ENGLISH  
Document type: JOURNAL ARTICLE; REVIEW; REVIEW, ACADEMIC English  
Abstract

Allergy is associated with elevated production of allergen-specific IgE antibody. Naive allergen-specific B cells undergo a series of molecular interactions before they would produce allergen-specific IgE antibody. Besides allergen recognition, specific B cells have to receive signals from cell-surface proteins and cytokines from their various cellular partners. Activated T cells express a ligand for CD40 that rescues germinal centre B cells from programmed cell death. Contact with follicular dendritic cells or other T and B cells promotes differentiation into plasma through engagement of two pairs of complementary cell-surface proteins, CD21/CD23. Among the many cytokines secreted by helper T cells, interleukin-4 is necessary for the class switch to IgE, and IL-13 also triggers switching to IgE. Then, IgE would participate to feed-back regulation of its production by acting at different levels. When bound to CD23, also known as Fc epsilon receptor type II, IgE immune complexes inhibit CD21/CD23 cell-cell interactions. When bound to Fc epsilon receptor type I on Langerhans' cells in the skin or mucosa, IgE antibody enhances allergen presentation to T cells and promotes their differentiation into type 2 helper T cells that secrete IL-4 but no interferon-gamma. Local activation of mast cells or basophils, via their Fc epsilon Receptor type I-bound IgE, would trigger secretion of various cytokines, IL-4 in particular, and expression of CD21 and CD40 ligand, which altogether could replace contact with T cells to deliver the co-stimulatory signals for localised IgE production. (ABSTRACT TRUNCATED AT 250 WORDS) (43 Refs.)

11/7/12 (Item 1 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
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121228694 CA: 121(19)228694g JOURNAL  
Activation and proliferation of follicular dendritic cell-like cells by activated T lymphocytes  
AUTHOR(S): Kim, Han-Soo; Zhang, Xinhong; Choi, Yong Sung  
LOCATION: Cellular Immunology Lab., Alton Ochsner Med. Foundation, New Orleans, LA, 70121, USA  
JOURNAL: J. Immunol. DATE: 1994 VOLUME: 153 NUMBER: 7 PAGES: 2951-61  
CODEN: JOIMA3 ISSN: 0022-1767 LANGUAGE: English  
SECTION:  
CA215010 Immunochemistry  
IDENTIFIERS: tonsil dendritic cell T lymphocyte  
DESCRIPTORS:  
Antigens, CD40... Integrins, .alpha.4.beta.1... Sialoglycoproteins, VCAM-1 (vascular cell adhesion mol. 1)...  
Activation and proliferation of follicular dendritic cell-like cells by activated T lymphocytes  
Lymphocyte, T-cell... Tonsil, dendritic cell...  
activation and proliferation of tonsillar dendritic cells by activated T lymphocytes  
Lymphokines and Cytokines, interleukin 4...  
effect of interleukin-4 on tonsillar dendritic cells  
Lipopolysaccharides...  
effect of lipopolysaccharide on tonsillar dendritic cells

Lymphocyte, B-cell...  
effect of tonsillar dendritic cells on B-cells  
Histocompatibility antigens, HLA-DR... Interferons, .gamma....  
.gamma.-interferon effect on HLA-DR antigen expression by tonsillar  
dendritic cells interactions  
Glycoproteins, specific or class, ICAM-1 (intercellular adhesion mol. 1)...  
Integrins, antigens LFA-1...  
LFA-1 in T-cell-tonsillar dendritic cell interactions

11/7/13 (Item 2 from file: 399)  
DIALOG(R) File 399: CA SEARCH(R)  
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120161086 CA: 120(13)161086u JOURNAL  
Efficient presentation of soluble antigen by cultured human dendritic  
cells in maintained by granulocyte/macrophage colony-stimulating factor  
plus interleukin 4 and downregulated by tumor necrosis factor .alpha.  
AUTHOR(S): Sallusto, Federica; Lanzavecchia, Antonio  
LOCATION: Basel Inst. Immunol., CH-4005, Basel, Switz.  
JOURNAL: J. Exp. Med. DATE: 1994 VOLUME: 179 NUMBER: 4 PAGES: 1109-18  
CODEN: JEMEA V ISSN: 0022-1007 LANGUAGE: English  
SECTION:  
CA215002 Immunochemistry  
IDENTIFIERS: antigen presentation dendritic cell cytokine  
DESCRIPTORS:  
Lymphocyte, T-cell...  
alloactivation of, by human dendritic cells, tumor necrosis  
factor-.alpha. and sol. CD40 ligand effect on  
Immunoglobulins, G, Fc.gamma.RII receptors... Receptors, Fc.gamma.RII (IgG  
fragment Fc receptor II)...  
antigen presentation by human dendritic cells in culture enhancement  
via  
Glycoproteins, specific or class, CD40-L (antigen CD40 ligand)...  
Lymphokines and Cytokines, tumor necrosis factor-.alpha....  
antigen presentation by human dendritic cells in culture response to  
Leukocyte, dendritic cell...  
antigen presentation by human, tumor necrosis factor-.alpha. and sol.  
CD40 ligand effect on  
Antigens, CD44...  
exon 9 variant of, tumor necrosis factor-.alpha. up-regulation of, of  
human dendritic cells in culture, antigen presentation in relation to  
Immune complexes...  
Fc.gamma.RII-mediated uptake of, by human dendritic cells in culture,  
antigen presentation enhancement by  
Lymphokines and Cytokines, interleukin 4...  
GM-CSF and, in culture of human dendritic cells  
Histocompatibility antigens, HLA, class II... Histocompatibility  
antigens, HLA, class I...  
of dendritic cells in culture, of humans, tumor necrosis factor-.alpha.  
and sol. CD40 ligand effect on  
Animal tissue culture...  
of dendritic cells of humans, granulocyte/macrophage colony-stimulating  
factor and interleukin-4 in  
Antigens...  
presentation of sol., by human dendritic cells, Fc.gamma.RII receptor  
and tumor necrosis factor-.alpha. effect on  
Antigens, B7/BB-1... Antigens, CD40... Antigens, CD58...  
Glycoproteins, specific or class, ICAM-1 (intercellular adhesion mol. 1)...  
tumor necrosis factor-.alpha. up-regulation of, of human dendritic  
cells in culture, antigen presentation in relation to  
CAS REGISTRY NUMBERS:  
83869-56-1 interleukin-4 and, in culture of human dendritic cells



L2 ANSWER 1 OF 23 MEDLINE  
 AN 1998039261 MEDLINE  
 DN 98039261  
 TI Biology and potential clinical applications of **flt3 ligand**.  
 AU Lyman S D; Williams D E  
 CS Immunex Corporation, Seattle, Washington, USA.  
 SO Curr Opin Hematol, (1995 May) 2 (3) 177-81. Ref: 25  
 Journal code: CN0. ISSN: 1065-6251.  
 CY United States  
 DT Journal; Article; (JOURNAL ARTICLE)  
 General Review; (REVIEW)  
 (REVIEW, TUTORIAL)  
 LA English  
 FS Priority Journals  
 EM 199803  
 EW 19980303  
 AB The **flt3 ligand** is a member of a small family of growth factors that stimulate the proliferation of hematopoietic cells. Other members of this family include Steel factor (also known as mast cell growth factor, stem cell factor, and kit ligand) and colony-stimulating factor 1. These proteins function by binding to and activating unique tyrosine kinase receptors. Both **flt3 ligand** and Steel factor stimulate the proliferation of early progenitor or stem cells. Neither of these factors exhibits much biologic activity by itself, but each factor can synergize with a wide range of other colony-stimulating factors and interleukins. One major difference between the two factors appears to be their effect on mast cells, which Steel factor stimulates, but **flt3 ligand** does not. Although **flt3 ligand** and Steel factor each act on early hematopoietic cells, differences in their activities suggest that they are not redundant and are both required for normal hematopoiesis. There are a number of clinical settings in which the **flt3 ligand** may prove quite useful.

L2 ANSWER 2 OF 23 MEDLINE  
 AN 96430857 MEDLINE  
 DN 96430857  
 TI [The effect of STK-1 receptor (FLK2/**FLT3**) **ligand** on human erythropoiesis in vitro. Clinical implications].  
 Wplyw ligandu receptora STK-1 (FLK2/**FLT3**) na ludzka erytropoeze in vitro. Implikacje kliniczne.  
 AU Ratajczak J; Marlicz W; Ratajczak M Z  
 CS Z Zakladu Patologii Komorki PAM w Szczecinie.  
 SO POLSKIE ARCHIWUM MEDYCINY WEWNETRZNEJ, (1995 Nov) 94 (5) 418-24.  
 Journal code: PAV. ISSN: 0032-3772.  
 CY Poland  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA Polish  
 EM 199702  
 EW 19970204  
 AB The influence of a new discovered haematopoietic growth factor known as ligand of STK-1 receptor (FLK2/**FLT3**) on growth of human erythropoietic progenitors in vitro was evaluated. Studies were performed on bone marrow cells enriched in haematopoietic progenitors expressing CD 34 antigen in serum supplemented as in serum free medium. In conclusion STK-1 receptor ligand (STK-1L) does